

## ABSTRACT

This invention provides a method for controlling a fluid separation system, preferably a blood apheresis system having a leukocyte reduction chamber. The method utilizes a three-level alarm system. A first-level alarm condition is triggered in response to a 5 pressure drop in the system to less than or equal to a specified system pressure and pauses fluid flow in at least a portion of the system. A second-level alarm condition is triggered in response to a specified number of said pressure drops within a specified period and reduces the flow rate of the fluid in the system. The alarm conditions may also trigger a visible and/or audible alarm. These alarm levels permit flow through the leukocyte 10 reduction chamber to continue when the pressure drop is caused by a non-serious, self-resolving or easily-correctable condition such as misalignment of system components.